

Ex Cys

FIG. 1A

GTCCTTCCACCATGCACACTCGCTGGCTTCTTCTGTGGCGTGTCTCTGCTCGCCGGCTG 60
 1 CAGGAAGGGTGGTACCGTGGCGACCCGAAAGAAGACACCCGACAAAGAGACGGAGGAC 60
 M H S L G F F S V A C S L L A A A -

 CGCTGCTCCGGGTCTCGCGAGGGCGCCGGCGCCGGCGCCGGCGCCGGCGCCGGCGCCGGCG 120
 61 GCGACGGGGCCAGGAGGGCTCCGGCGCCGGCGCCGGCGCCGGCGCCGGCGCCGGCGCCGGCG 120
 L L P G P R E A P A A A F E S G L D -

 ACCTCTCGGACGGGGAGCCGGACGGCGGGGAGGGCCACGGCGTATGCAAAGCAAAGATCTGG 180
 121 TGGAGGGCCTGCGCCTCGGGCTGCGCCGCTCCGGCGAAATACTGCTCGTTCTAGACC 180
 L S D A E P D A G E A T A Y A S . K D L E -

 AGGAGGAGTTACGGTCTGGTGTCAAGTGTAGATGAACTCATGACTGTACTCTACCCAGAAT 240
 181 TCCCTCGTCAATGCCAGACACAGGTCACATCTACTTGAGTACTGACATGAGATGGGTCTTA 240
 E Q L R S V S S V D E L M T V L Y P E Y -

 ATTGGAAATGTACAAGTGTCAAGCTAAGGAAAGGAGGGCTGGCAAACATAACAGAGAACAGG 300
 241 TACCTTTACATGTTCACAGTCGATTCCTTCCGACCCGTTGTATTGTCTCTGTCC 300
 C W K M Y K C Q L R K G G W Q H N R E Q A -

 CCAACCTCAACTCAAGGACACAGAACATAAAATTGCTGGCACATATAATACAG

MATCH WITH FIG. 1B.

MATCH WITH FIG. 1A

FIG. 1B

301 GGTGGAGTTGAGTTCTGCTCTGATATTAAACGACGTCTGTAATTAACTGGTC
 C N L N S R T E E T I K F A A H Y N T E - 360
 AGATCTTGAAAGTATTGATAATGAGTGGAGAAAGACTCAATGCCATGCCACGGAGGTGT
 361 TCTAGAACTTTCAAACTTAACTCACCTCTTCTGAGTTACGGTACCCCTCCACA
 C I L K S I D N E W R K T Q C M P R E V C - 420
 GTATAGATGTGGGAAGGAGTTGGAGCTGGGACAAACACCCCTCTTAAACCTCCATGTC
 421 CATACTACACCCCTCCTAACCTCAGGCCCTGTTGAGAAATTGGAGGTACAC
 C I D V G K E F G V A T N T F F K P P C V - 480
 TGTCCGTCACAGATGTGGGGTTGCTGCAATTAGTGAGGGCTGCAGTCATGAAACACCA
 481 ACAGGGCAGATGTCTACACCCCAACGACGTATCACCTCCCGACGTACCGTACTTGTGGGT
 C S V Y R C G C N S E G L Q C M N T S - 540
 GCACGGCTACCTCAGCAAGACGTTATTGAAATTACAGTGCTCTCTCAAGCCCCA
 541 CGTGCATGGAGTCGTTCTGCAATAACTTTAAATGTCAGGGAGAGAGAGTTCCGGGT
 C T S Y L S K T L F E I T V P L S Q G P K - 600
 AACCAAGTAACAAATCAGTTGCAATTACACACTTCCCTGCCATGTCATAACTGGATG
 601 TTGGCTCATTTAGTCACACGGTTAGTGTCAAGGCCAACGATTTGACCTAC
 C P V T I S F A N H T S C R C M S K L D V - 660
 MATCH WITH FIG. 1C

MATCH WITH FIG. 1B

F | G. | C

TTTACAGACAAGTTCATTCCATTAGACGTTCCCTGCCAGCAACACTACCACAGTGTG
 661 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 AAATGTCTGTTCAAGGTTAATAATCTGCAAGGGACGGTGTGATGGTGTACACAG
 C Y R Q V H S I I R S L P A T L P Q C Q -

 AGGCAGCGAACAGACCTGGCCACCAATTACATGTGGATAATTACATCTGCAGATGCC
 721 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 TCCGGTGGCTTGTCTGGACGGGGTGGTTAATGTACACCTTATTAGTGTAGACGTTACGG
 C A A N K T C P T N Y M W N H I C R C L -

 TGCGCTCAGGAAGGATTTTATGTTTCCCTCGGATGACTCAACAGATGGATTCC
 781 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 ACCGAGTCCTTCTAAATAACAAAAGGAGCCTACCGACCTACTGAGTTGTCTACCTAACGG
 C A Q E D F M S D A G D S T D G F H -

 ATGACATCTGTGGACCAAACAAGGAGGCTGGATGAAGAGACCTGTCAGTGTCTGCAGAG
 841 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 TACTGTAGACACCTGGTTGTTCTCGACCTACTTCTCTGGACAGTCACACAGCTCTC
 C D I C G P N K E L D E E T C Q C V C R A -

 CGGGCTTCGGCTGCCAGCTGTGGACCCACAAAGAACCTAGACAGAAACTCATGCCAGT
 901 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 GCCCGGAAGCCGGACGGTTCGACACCTGGGGTGTCTGATCTGCTTGTGAGTACGGTCA
 C G L R P A S C G P H K E L D R N S C Q C -

 GTGTCTGTAAACAAACTCTTCCCAGCCAACTGGGGCAACCTGGAGAATTGTGATGAAA
 961 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 CACAGACATTTTGTGAGAAGGGGTGGCTTACACCCGGGTGGCTCTAAACTACTTT
 C MATCH WITH FIG. 1D

MATCH WITH FIG. 1C

F I G . I D

C V C K N K L F P S Q C G A N R E F D E N -

ACACATGCCAGGTGTGTATGTAAAAGAACCTGCCAGAAATCAACCCCTAAATCCCTGGAA
1021 -+-----+-----+-----+-----+-----+-----+-----+-----+ 1080
TGTGTACGGTACACATACATTCTGGACGGGTCTTAGTGTGGGATTAGGACCTT
C T C Q C V C K R T C P R N Q P L N P G K -

AATGTGCCCTGTGAATGTACAGAAAAGTCACAGAAAATGCTTGTAAAAGGAAAGGAAGTTC
1081 -+-----+-----+-----+-----+-----+-----+-----+-----+ 1140
TTACACGGACACTTACATGTCTTCAGGTGTCTTACGAACAAATTTCCTTCAAGG
C A C E C T E S P Q K C L L K G K F H -

ACCACAAACATGCCAGGTGTACAGACGGCCATGTACCGAACCGCCAGAACGGCTTGTGAGC
1141 -+-----+-----+-----+-----+-----+-----+-----+-----+ 1200
TGGTGGTTTGTACGGTACATGTCTGCCGGTACATGCTTGGGGTCTTCGAACACTCG
C H Q T C S C Y R R P C T N R Q K A C E P -

CAGGATTTCATATAGTGAAGAAGTGTGTGTCGTGTGTCCTTCATATGGCAAAGACAC
1201 -+-----+-----+-----+-----+-----+-----+-----+-----+ 1260
GTCCTAAAGTATACCTCTTCACACAGCAACACAGGGAAAGTATAACCGTTCTGGTG
C G F S Y S E E V C R C V P S Y W Q R P Q -

AAATGAGCTAAGGATTGTTACTGTTCCAGTTCATCGATTTCATTATGGAAAACACTGTGT

MATCH WITH FIG. 1E

MATCH WITH FIG. 1D

山一山

1261 TTTACTCGATTCTAACATGACA
 M S * C
 1321 TGCCACAGTAGAACTGTCTGTGAACAGAGAACCCCTTGTGGTCCATGCTAACAAAGACCA
 1380 ACGGTGTCATCTTGACAGACACTTGTCTCTGGAACACCCAGGTACGATTGTTCTGT
 1381 AAAACTGTCTTCTTCTGTGAACCATGTGGATAACTTACAGAAATGGACTGGAGCTCATCTG
 1440 TTTAGACAGAAAGGAACTTGGTACACCTATGAAATGTCCTTACCTGACCTCGAGTAGAC
 1441 CAAAAGGCCCTCTTGTAAAGACTGGTTTCTGCCAATGACCAAACAGCCAAAGATTTCCTC
 1500 GTTTCCGGAGAACATTTCTGACCAAAAGACGGTTACTGGTTGTGGTTCTAAAGGAG
 1560 TTGTGATTCTTTAACAGAATGACTATATAATTCACTAAATTTGATTTCTGC
 1561 AACACTAAAGAAATTTCTTACTGATATATAATTAAAGGTGATTTTATAACAAAGACG
 1620 ATTCATTTTATAGCAACACAATGGTAAACTCACTGTGATCAATATTTTATATCAT
 1621 TAAGTAAATATCGTTGTTAACCATTTGACTGACACTAGTTATAAAATATAGTA
 1674 GCAAAATATGTTAACAAATGAAATTTGATTTATATAAAACAAAAAA
 CGTTTATACAAATTTTACTTAACATAATTTTTTTTTTTTTTT

1 CGAGGCCACGGCTTATGCAAGCAAGGATCTGGAGGCAGTTACGGTCTGTGTCCAGTGT
 71 ACATGAACTCATGACTGTACTCTACCCAGAATAATTGGAAAATGTACAAGTGTCAAGCTAAAG
 121 GAAAGGAGGCTGGCAACAGATAACAGAGAACAGGCCAACCTCAACTCAGGACAGAACAGAC
 181 TATAAAATTGGCTGGAGCACATTATAACAGAGATCTGAAAAGTATTGATAATGAGTGT
 241 GAGAAAGACTCAATGCATGCCACGGGAGGGTGTGTATAAGATGTGGGAAGGAGTTGGAGT
 301 CGCGACAAACACCTTCTTTAACCTCCATGTGTCTACAGATGTGGGGTTGGCTG
 A T N T F F K P P C V S V Y R C G G C C

FIG. 2A

361 CAATAGTGGCTGGCATGGAAACACCGAACCTCAGGCTAACGACGTTATT
 N S E G L Q C M N T S T S Y L S K T L F

421 TGAAATTACAGTGCCTCTCTAGGCCAAACAGTAACAAATCAGTTTGCCAAATCA
 E I T V P L S Q G P K P V T I S F A N H

481 CACTTCCTGCCGATGGCATGGTCTAAACTGGATGTTACAGACAAAGTTCAATTATTAG
 T S C R C M S K L D V Y R Q V H S I I R

541 ACGTTCCCTGCCAACACTACAGTGTCAAGGCAGCGAACAAAGACCTGCCACCAA
 R S L P A T L P Q C Q A A N K T C P T N

601 TTACATGGAAATAATCACATCTGCAGATGCCATGGCTCAGGAAGATTATGTTTCCCTC
 Y M W N N H I C R C L A Q E D F M F S S

661 CGATGGCTGGAGATGACTCAACAGATGGATTCCATGACATCTGGACCAAAAGGAGCT
 D A G D D S T D G F H D I C G P N K E L

FIG.2B

721 CGATGAGAGACCTGTCAGTGTCTGAGGGCTTGGCTGCCAGCTGTGGAC
 D E E T C Q C V C R A G L R P A S C G P

781 CCACAAAGAACTAGACAGAAACTCATGCCAGTGTCTGTAAACAAACTCTTCCCCAG
 H K E L D R N S C Q C V C K N K L F P S

841 CCAATGTGGCCAAACGGAGAATTGATGAAACACATGCCAGTGTCTATGTAAAGAAC
 Q C G A N R E F D E N T C Q C V C K R T

901 CTGCCAGAAATCAACCCCTAAATCCTGGAAAMATGTGCCTGTGAATGTACAGAAAGTCC
 C P R N Q P L N P G K C A C E C T E S P

961 ACAGAAAATGCTTAAAGGAAAGGTCCACCAAAACATGCCAGCTGTACAGACCG
 Q K C L L R G K K F H H Q T C S C Y R R

1021 GCCATGTACGAACGCCAGAAGGCTTGTGAGGCCAGGATTTCATATAGTGAAGACTGTC
 P C T N R Q K A C E P G F S Y S E E V C

FIG. 2C

1081	TCGTTGTCCTCATGGCAAAAGACCAATGAGCTAACATTGTTCCA
	R C V P S Y W Q R P Q M S
1141	GTTCATCGATTTCTTATTGGAAAACCTGTTGCCAACAGTAGAACAGA
1201	GAGACCCCTTGTGGTCCATGCTAACAAAGACAAAGCCTCTGTCTTCCGTAAACCATGGAA
1261	TAACTTACAGAAATGGACTGGAGCTCATCTGCCAAAGGCCTCTGTAAAGACTGGTTTT
1321	CTGCCAATGACCAACAGCCAAAGATTCTCTGTGATTCTTAAAGAACATA
1381	TAATTCACTTCCACTAAATAATTGTTCTGCATTCAATTATGGCTTAAATAATGAAAAA
1441	AAAACACTGATCAATAATTATCATGCAAAATATGTTTAAATAATGAAAAA
1501	TTGTATTATAAAAAAA

FIG. 2D

1

Pdgfa	.MRTLACILL LGCGYLAHVL AEEAEIIPREV IERLARSQIE SIRDLOQRILLE
Pdgfb	MNRCTWA.LFL SLCYYLRLVS AEGDPIPEEL YEMLSDHSIR SFDDLQQRILLH
VegfMNEFLL SWVHEWSLALL LY...
Vegf2MTV LYPEYWKMYK CQ...

51

Pdgfa	IDSVGSEDSL DTSLRRAHGVH ATKHVPERKRP LPIPRKRSI.
Pdgfb	GDP.GEEDGA ELDLNMMTRSH SGGELES...
Vegf	APMAE....GGGQ NHHEVVKEMD .VYQR...
Vegf2	REQANLNSRT EETIKEAAAH YNTTEILKSID NEWRK...

100

Pdgfa	AVCKTRTIVY EIPRSQVDPT SANELLWPPC VEVKRCCTGCC
Pdgfb	AECKTRTIVF EISRRLLIDRT NANFLVWPPC VEVQRCGGCC
Vegf	SYCHPKEETLV DIFQEVYPDEI ..EYIYKPS
Vegf2	TOCSPREVCI DVGKEFGVAT ..NTFFFKPPC VSYYRCGGCC

100

Pdgfa	AVCKTRTIVY EIPRSQVDPT SANELLWPPC VEVKRCCTGCC
Pdgfb	AECKTRTIVF EISRRLLIDRT NANFLVWPPC VEVQRCGGCC
Vegf	SYCHPKEETLV DIFQEVYPDEI ..EYIYKPS
Vegf2	TOCSPREVCI DVGKEFGVAT ..NTFFFKPPC VSYYRCGGCC

150

Pdgfa	AVCKTRTIVY EIPRSQVDPT SANELLWPPC VEVKRCCTGCC
Pdgfb	AECKTRTIVF EISRRLLIDRT NANFLVWPPC VEVQRCGGCC
Vegf	SYCHPKEETLV DIFQEVYPDEI ..EYIYKPS
Vegf2	TOCSPREVCI DVGKEFGVAT ..NTFFFKPPC VSYYRCGGCC

Pdgfa	AT.....
Pdgfb	ETVAAARPVT
Vegf	EESNNTMQM RIK.PH..QG QHIGEMSFHQ HMKCECRPKK DRARQEKKSV
Vegf2	STSYLSKTLF EIT.VPLSQG PKPVTLSPAN HTSCKCWSKL DVYRQVHSII

200

200

FIG. 3A

201

Pdgfa TSLNPD YREEDTDVR.
Pdgfb RSPGGSQEQR AKTPQTRVTI RTVVRVRPPK. GKRKFKHTH DKTALKETLG
Vegf RGK. GKQKREK RGKRSWSVY VGARCCMLPW SLPGPHEP . . .
Vegf2 RRSUPATLPQ CQAANKTCPT NYMMNNHICR CLAQEDFLFS SDAGDDSTDG

250

251

Pdgfa
Pdgfb A.
Vegf CGP
Vegf2 FHDICGPNE LDEETCQCVC RAGLRPASCG PHREL. . . DR NSCQCVCCKNK

300

Pdgfa
Pdgfb
Vegf DSRCKARQ LELNERTCRC DKPRR.
Vegf2 LFPSSQCGANR . EFDENTTCQC VCKRTCPRNQ PLNPGKCACE CTESPQKCLL

350

Pdgfa
Pdgfb
Vegf DSRCKARQ SCYRRPCTNR QKACEPGFSY SEEVCRCVPS YWQRPQMS
Vegf2

398

FIG. 3B

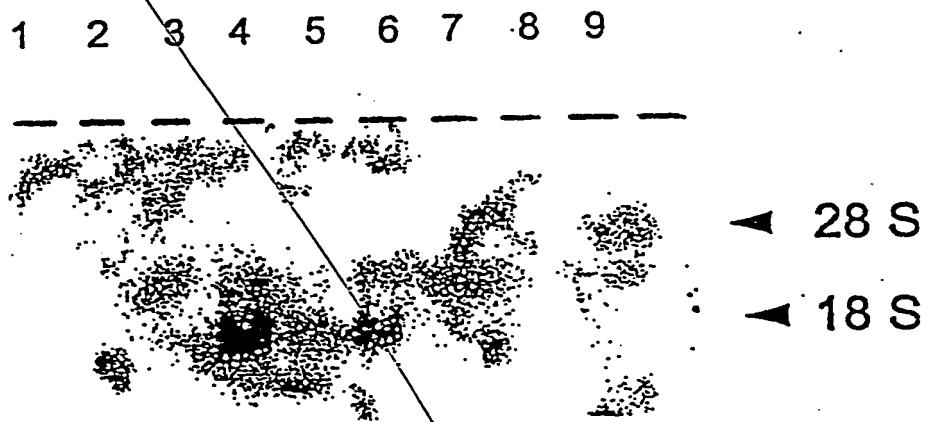
PERCENTAGE (%) OF AMINO ACID IDENTITIES BETWEEN
EACH PAIR OF GENES IS SHOWN IN THE
FOLLOWING TABLE

	PDGF α	PDGF β	VEGF	VEGF2
PDGF α				
PDGF β		48.0		
VEGF		20.7	22.7	
VEGF2		23.5	22.4	30.0

FIG. 4

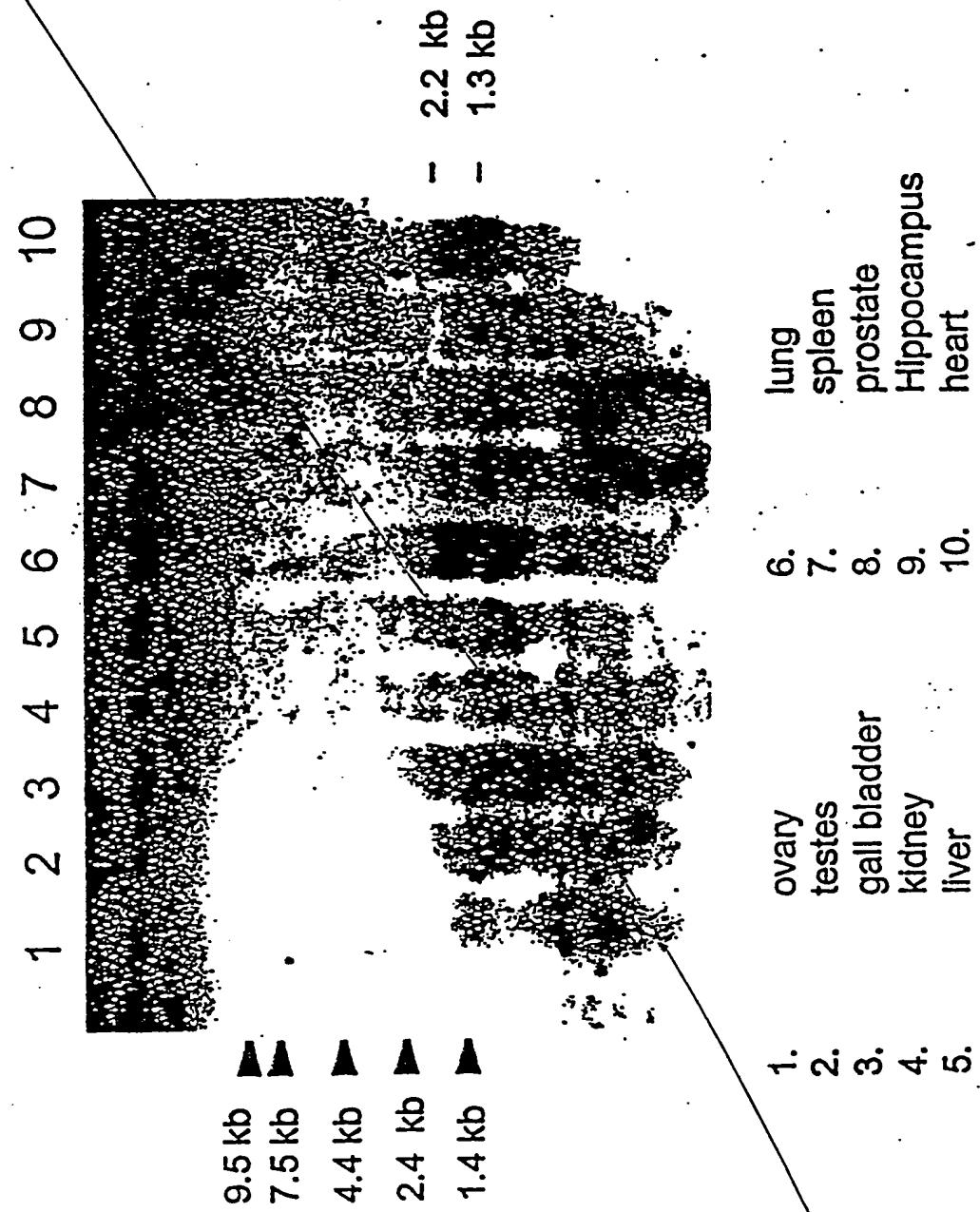
SCANNED 4

Expression of VEGF2 mRNA in Human Breast Tumor Cells



1. normal breast tissue
2. breast tumor tissue
- 3-9. breast tumor cell lines.

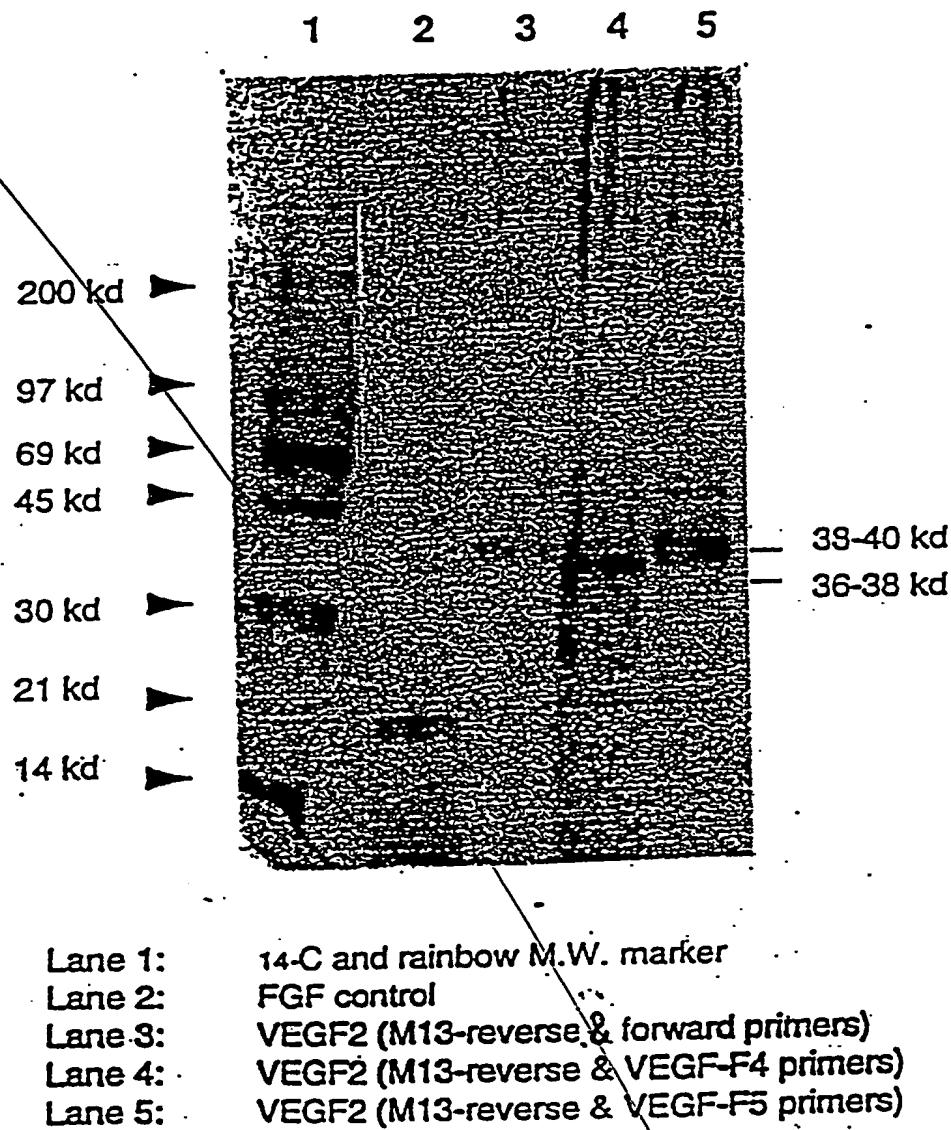
FIG. 5



Expression of VEGF2 mRNA in human adult tissues.

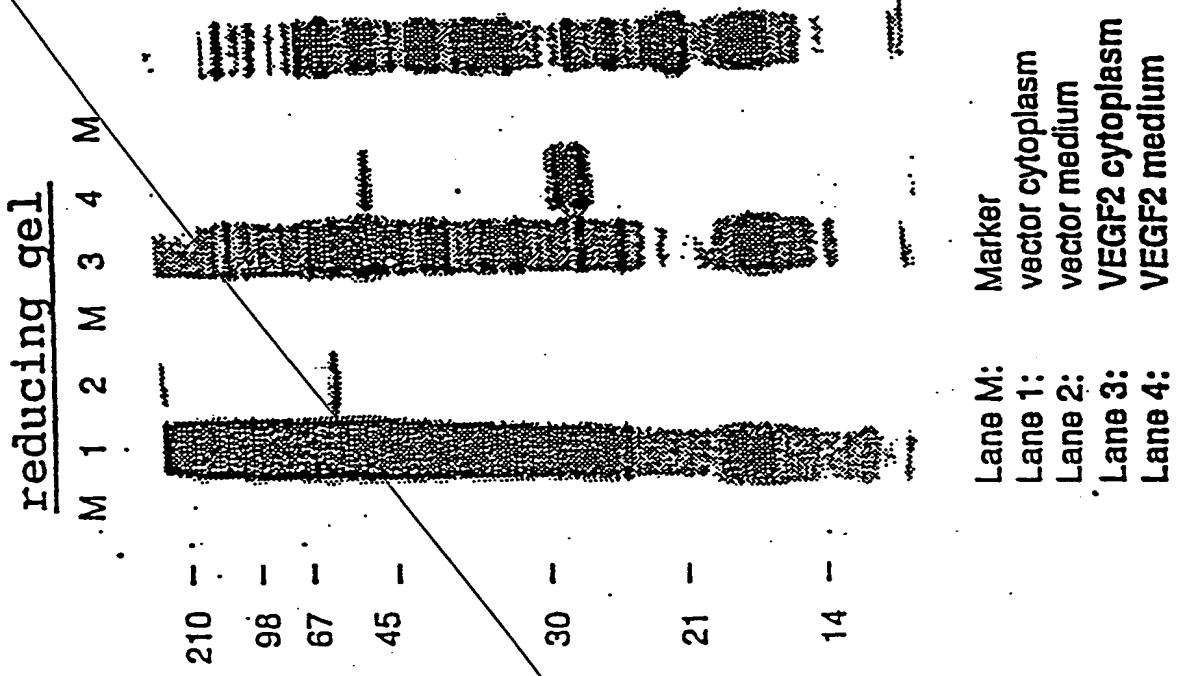
FIG. 6

FIG. 7





F I G. 8 A



F I G. 8 B

FIG. 9

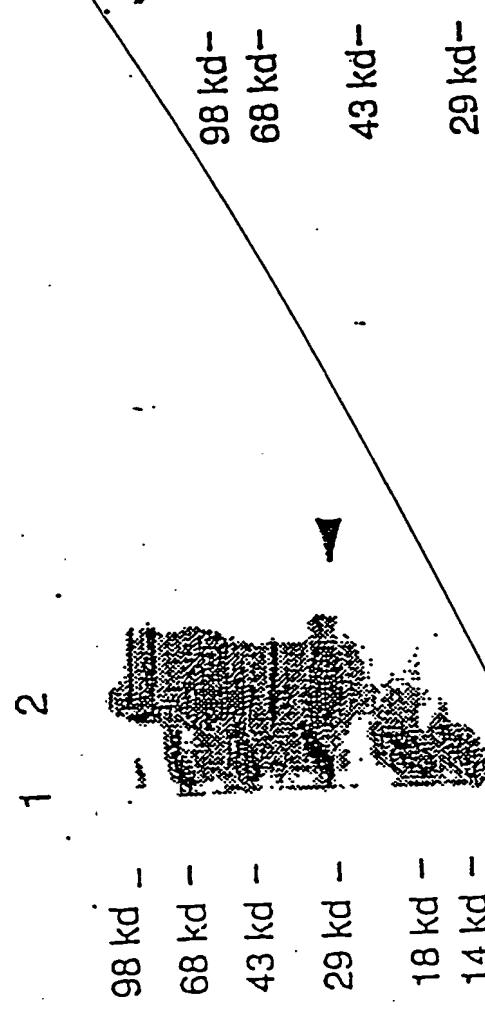
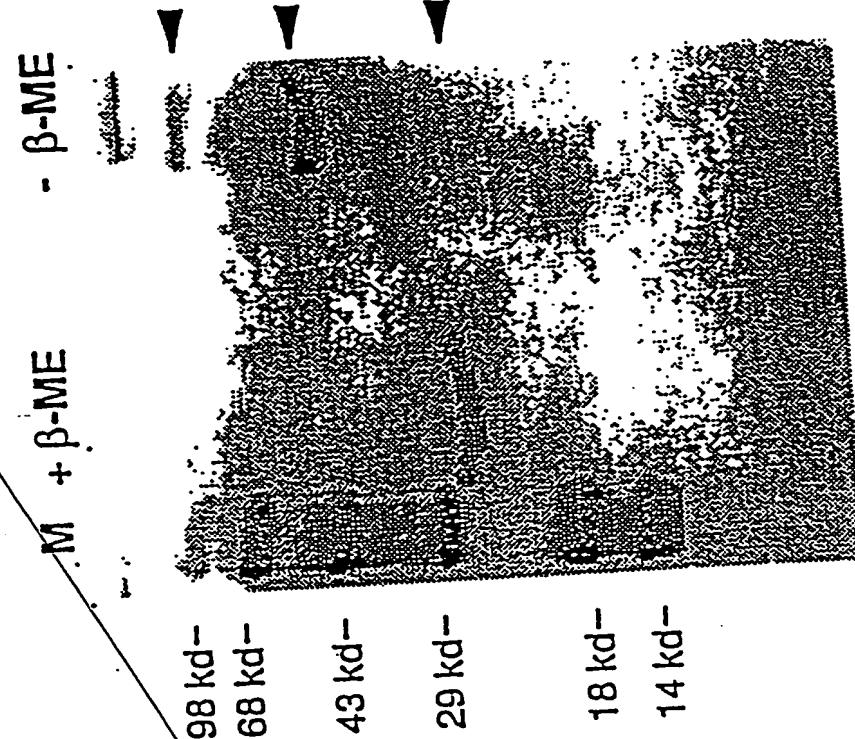
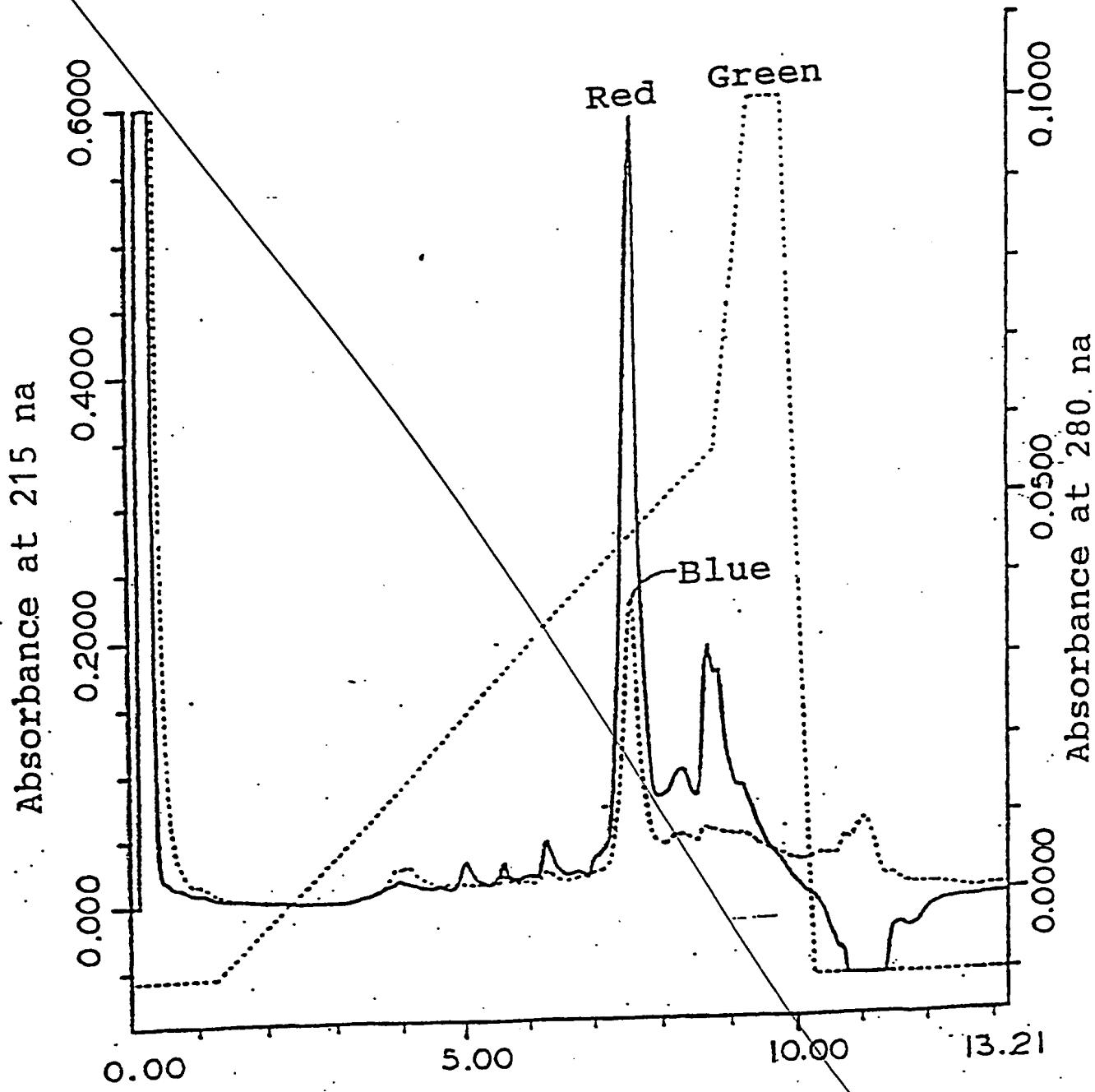


FIG. 10



Lane 1: Molecular weight marker
Lane 2: Precipitates containing VEGF2.

FIG. 11



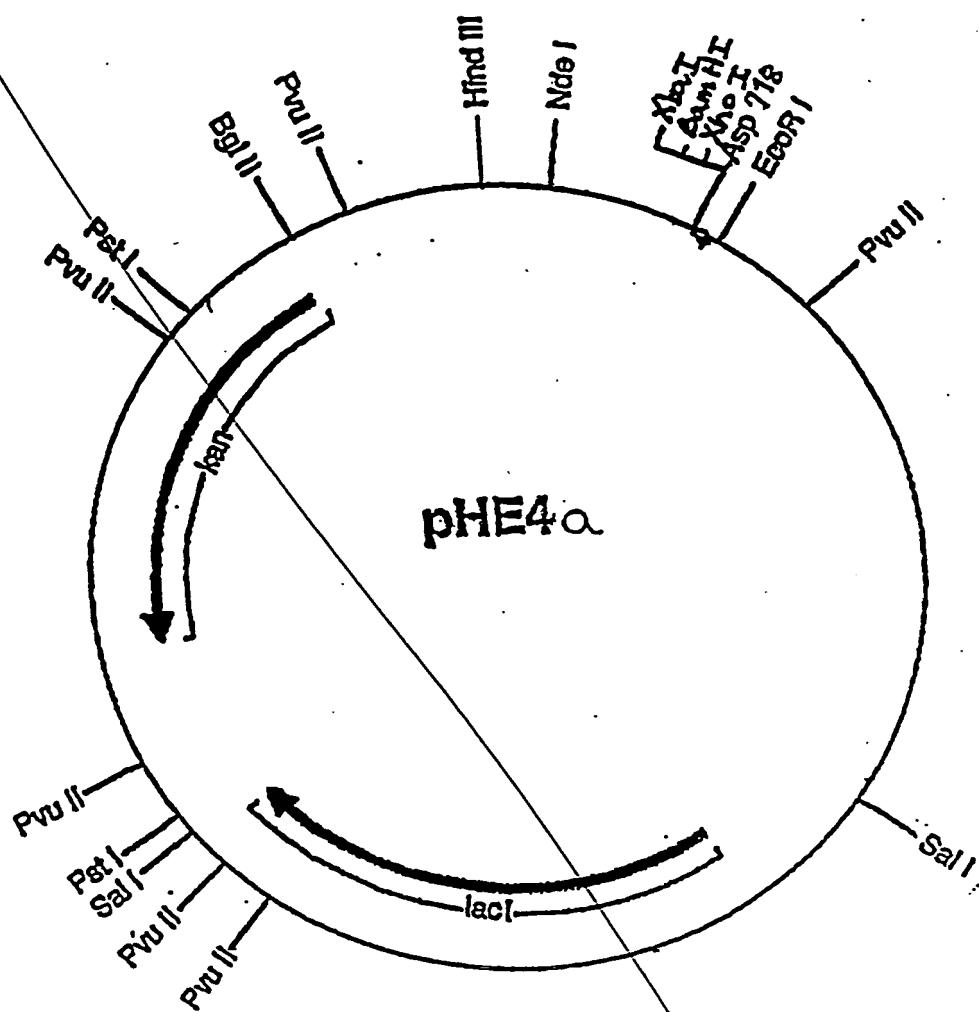


FIG. 12.

M
I
G
I

1 AAGCTTAAAAACTGCAAAATAAGT[TGACTG]
-35 Operator 1

Operator 2 -10 50 TAAGATGTACCCCATTTCAACATTA

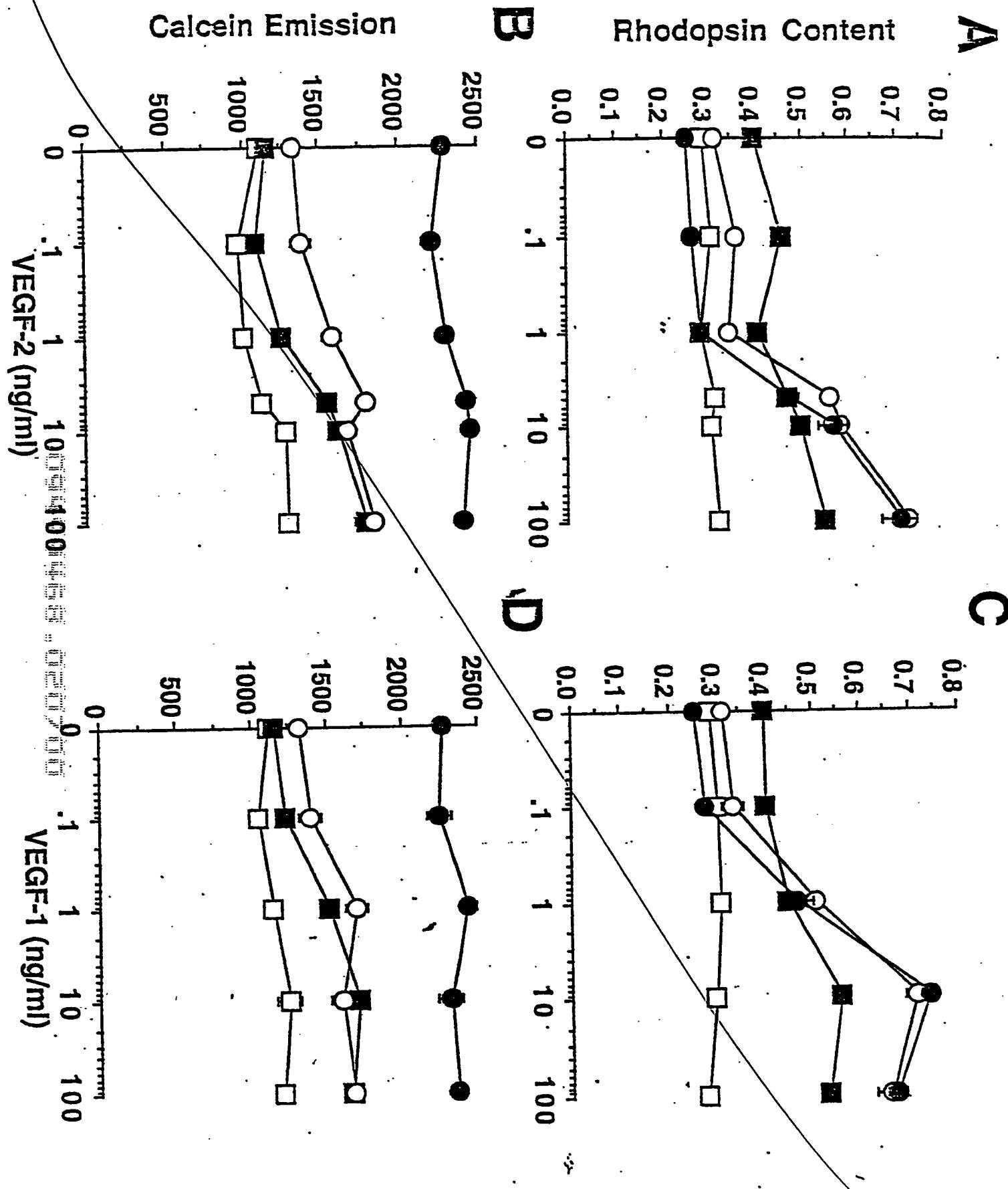


FIG. 14

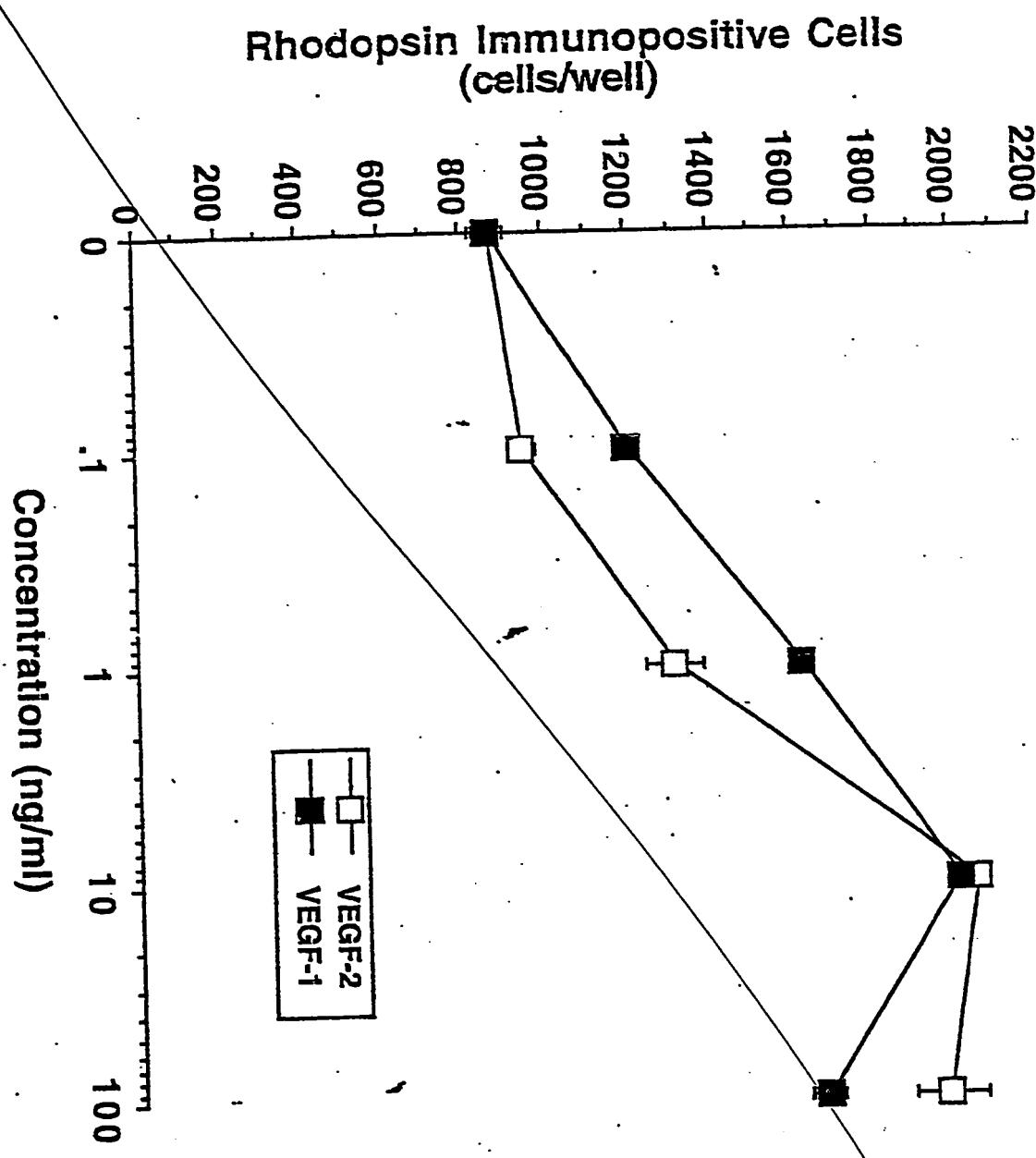
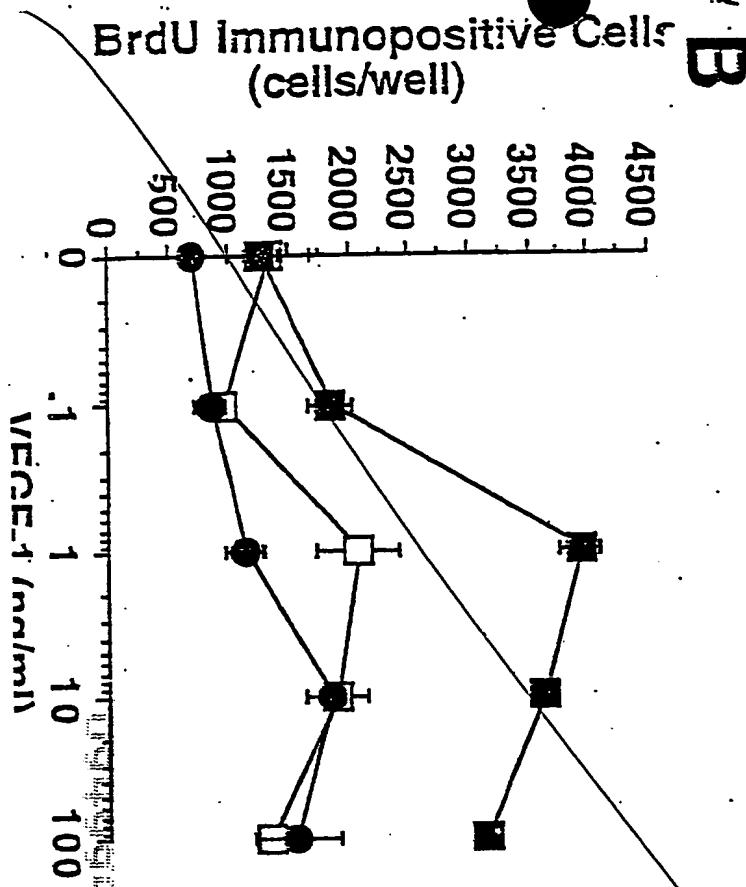
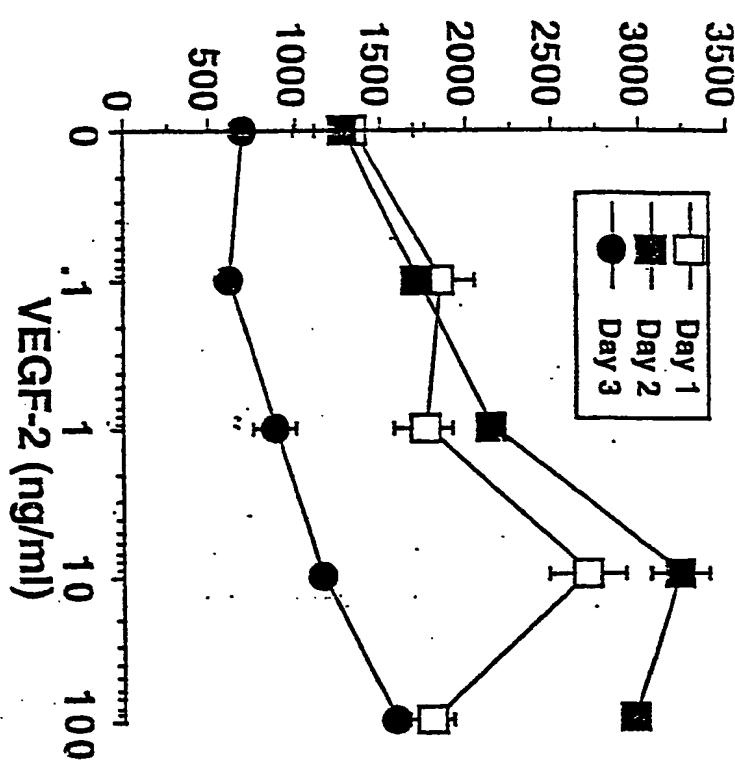


FIG. 15

BrdU Immunopositive Cells
(cells/well)



BrdU Immunopositive Cells
(cells/well)



Thymidine Incorporation
(dpm/well)

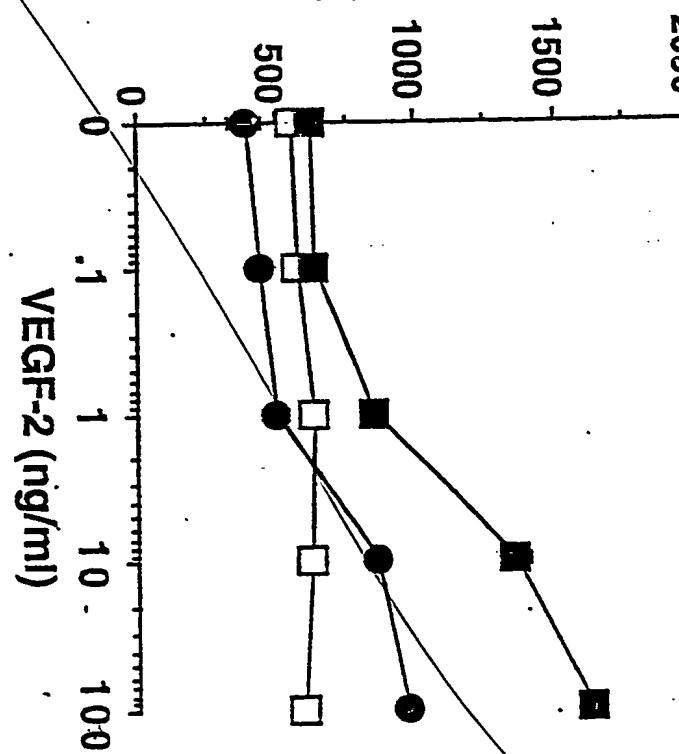


FIG. 16

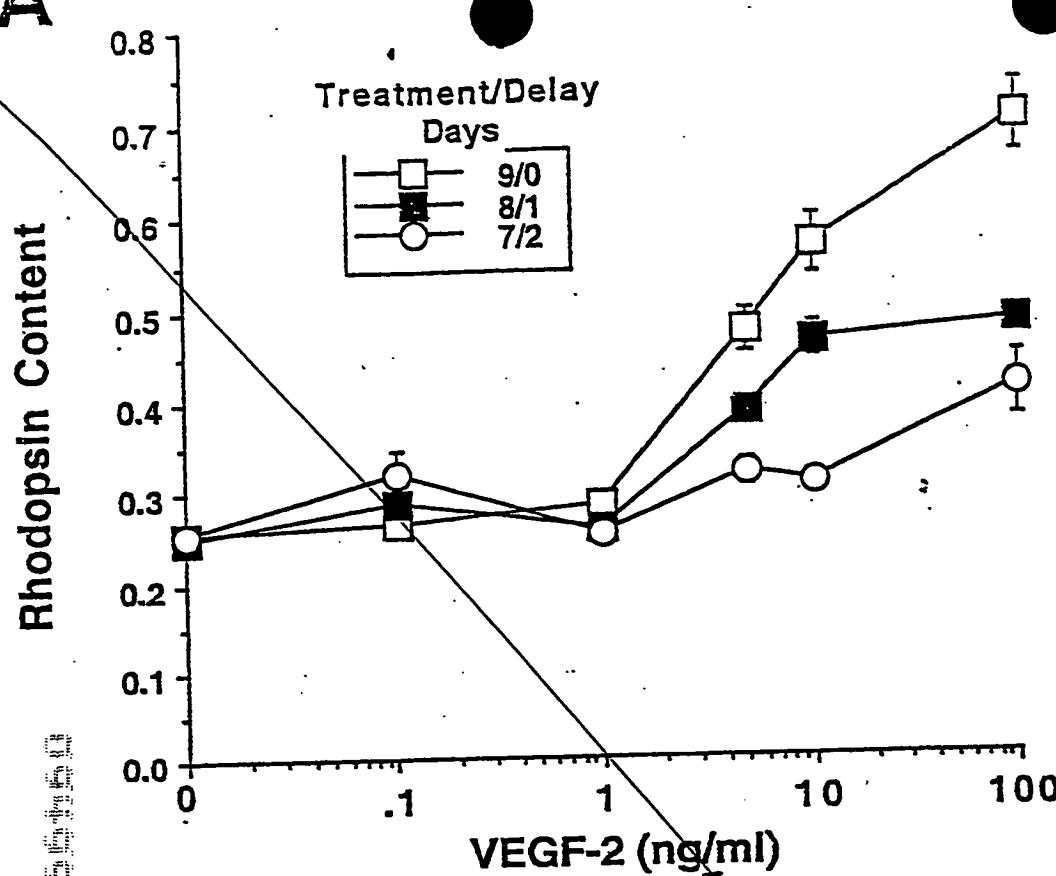
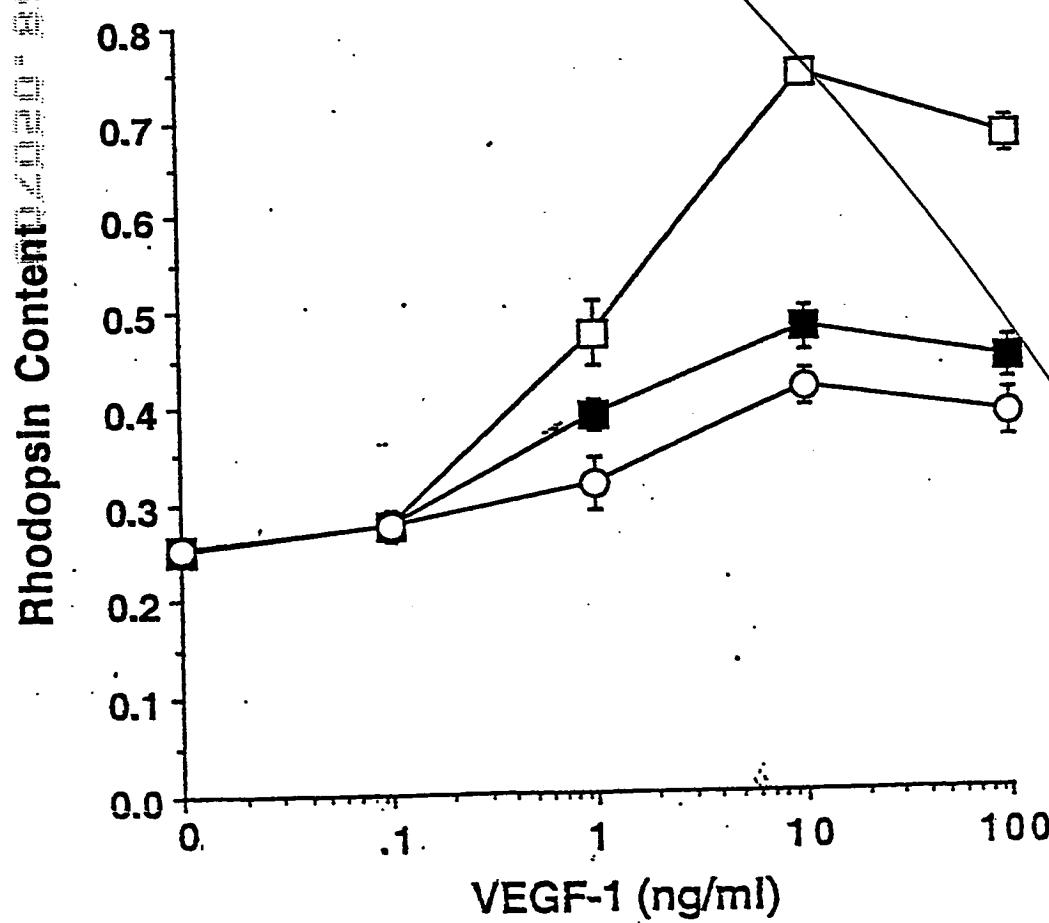
A**B**

FIG. 17

FIG. 18

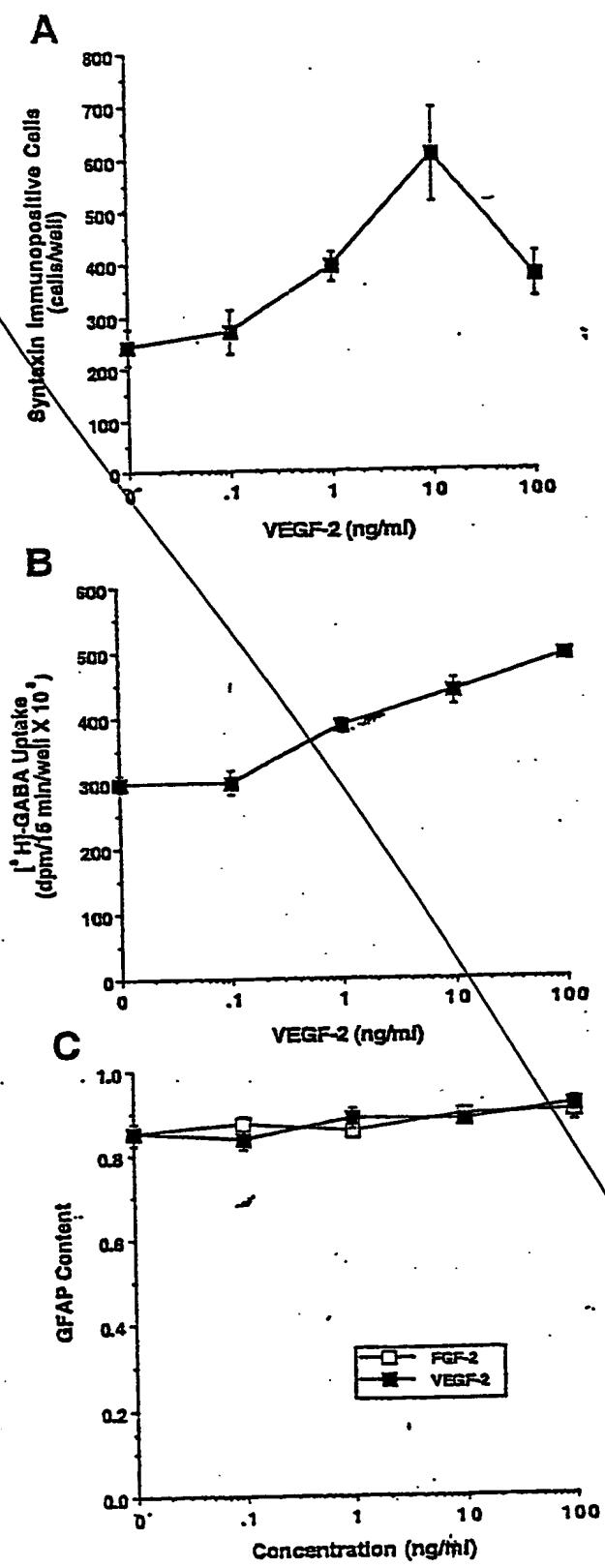


FIG. 19

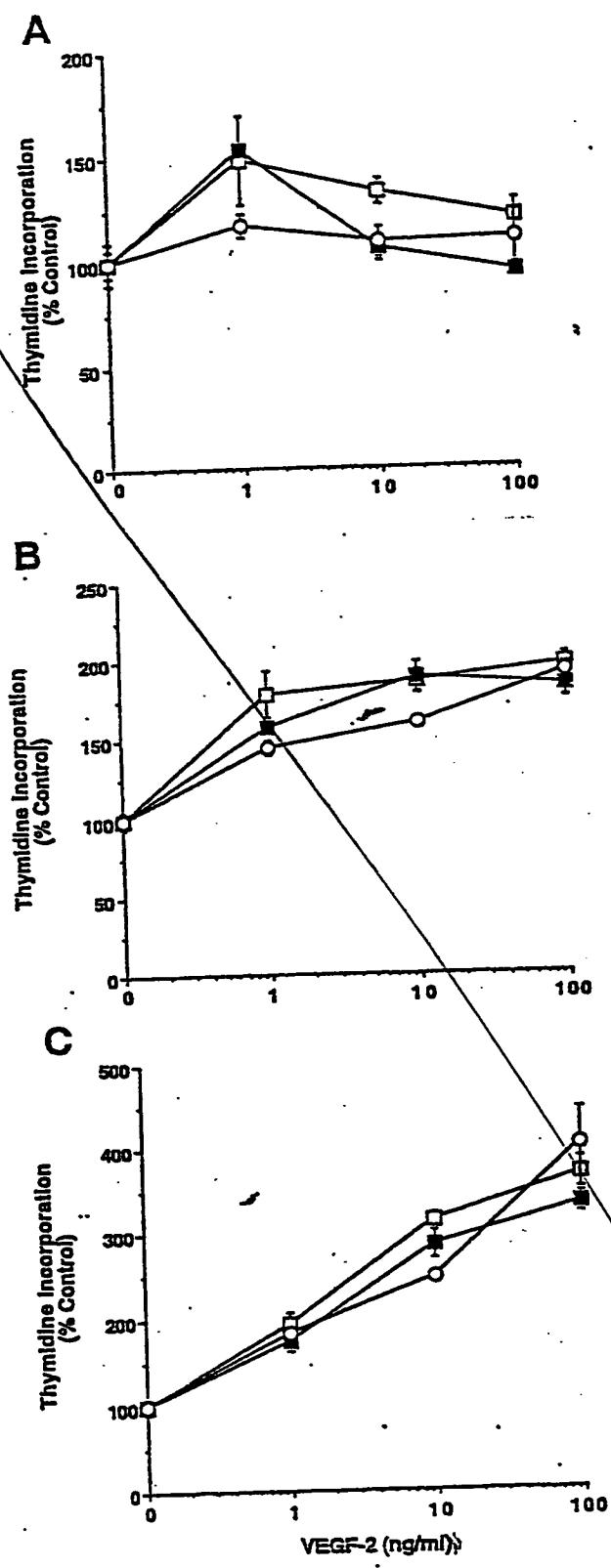


FIG. 20

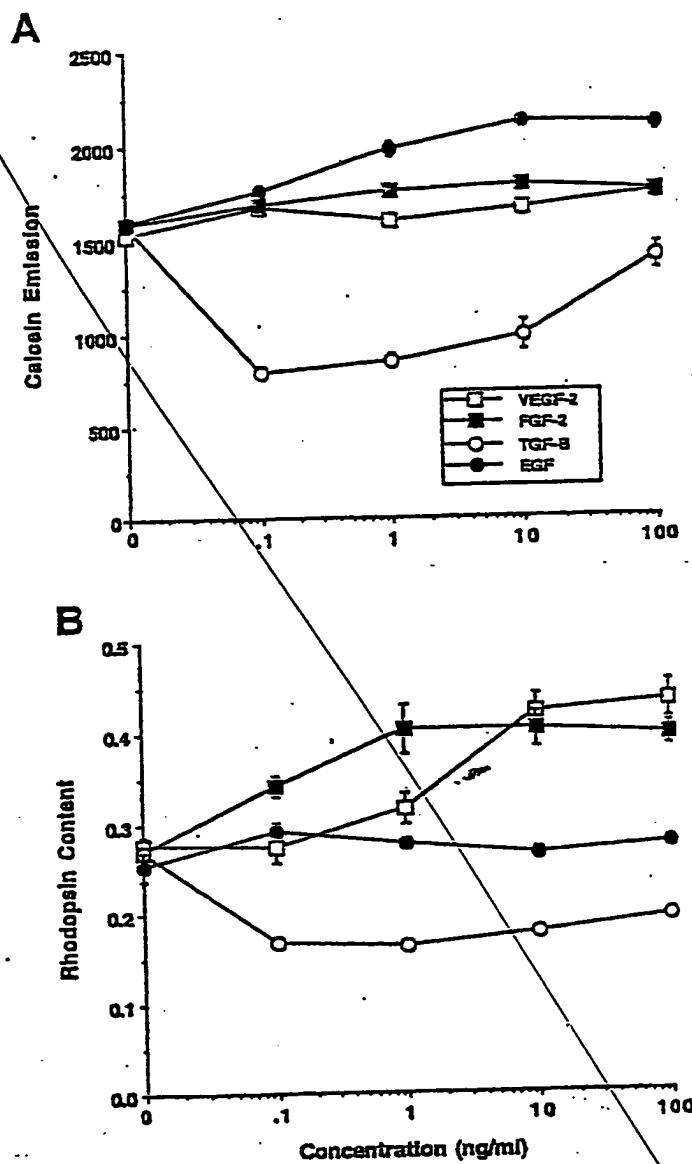


FIG. 21

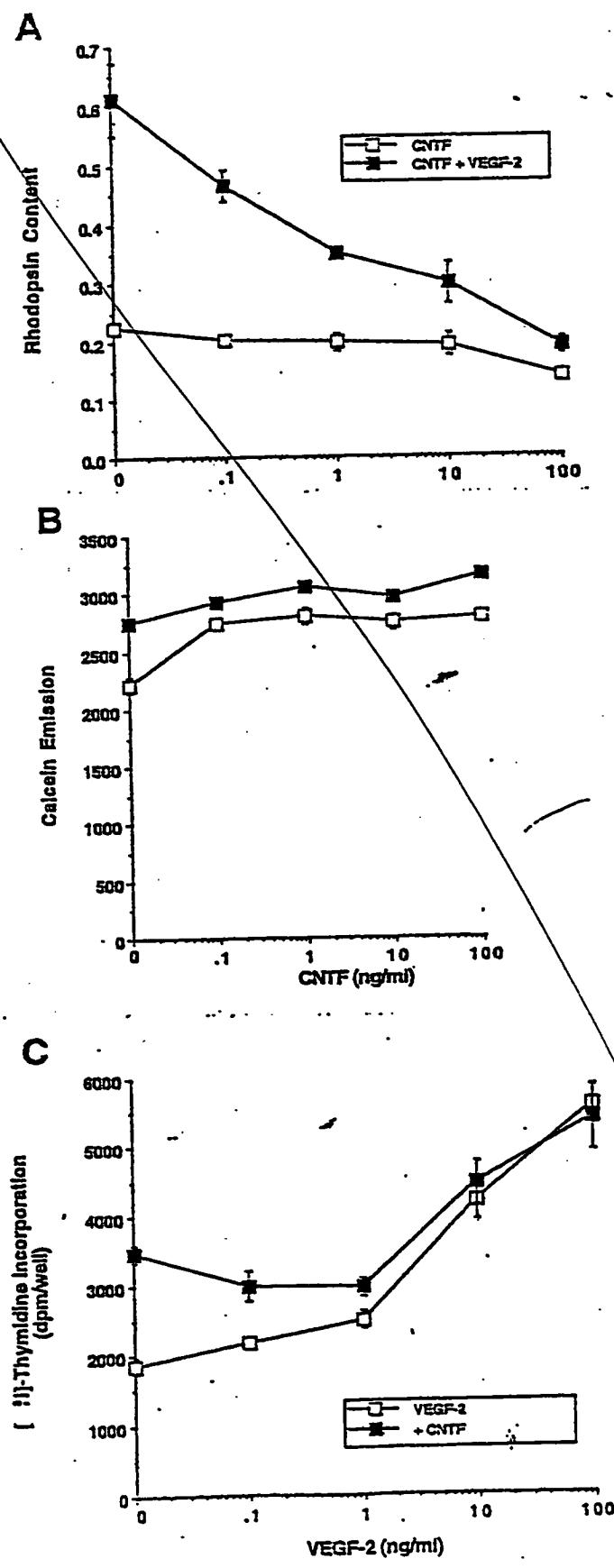
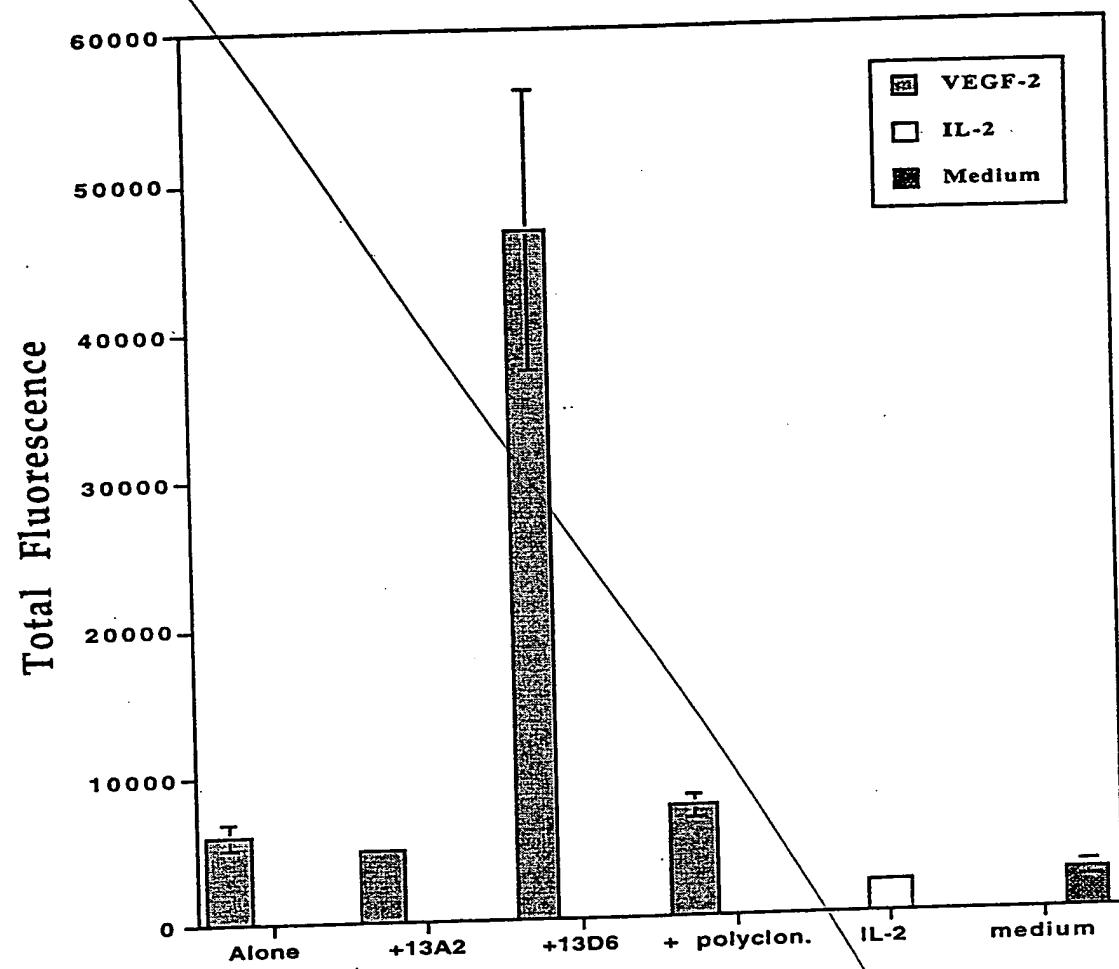


FIG. 22



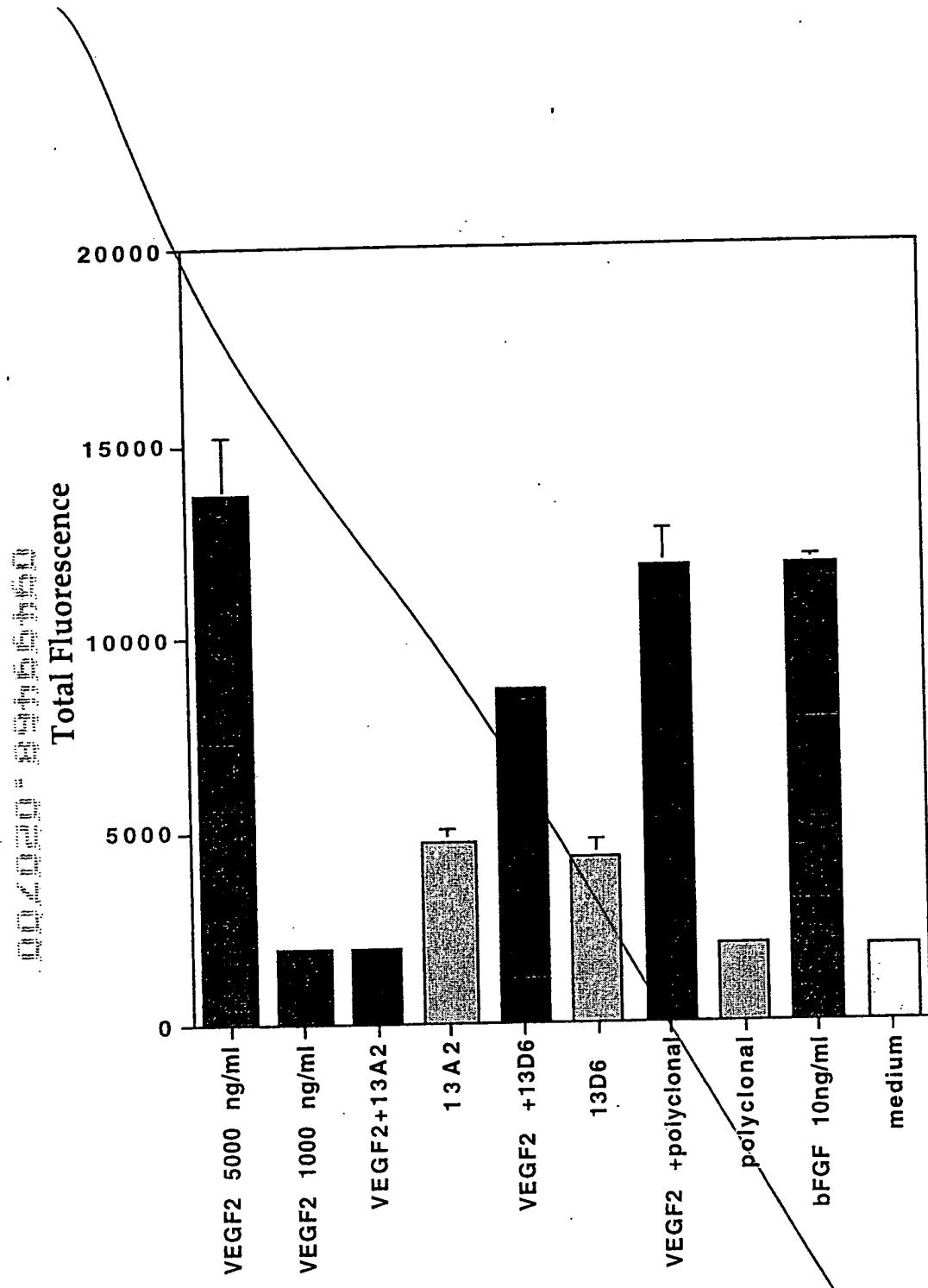
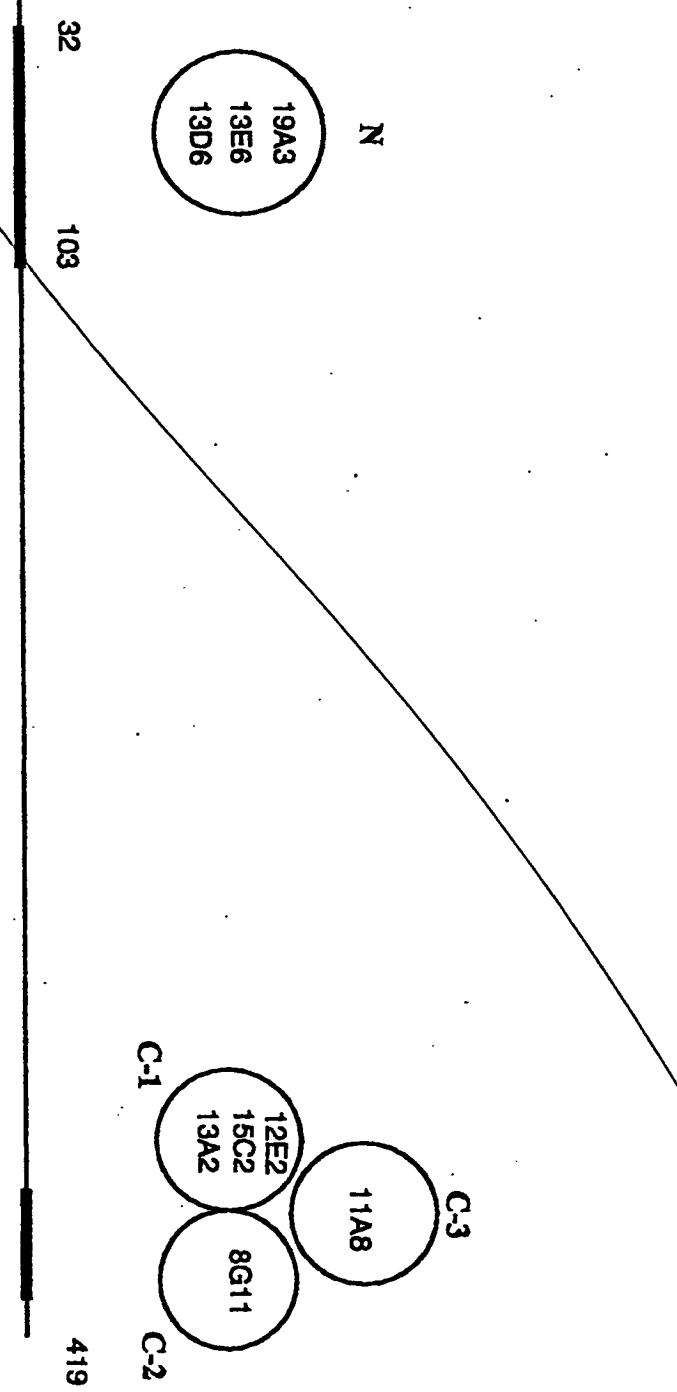


FIG.23

FIG. 24

Epitope map for murine anti VEGFR-2 MAB



Murine VEGF-2 MAB status

FIG. 25

Isotype	Rel. affinity ng/ml	Specificity	Reactivity		Purified mg
			Western	ELISA	
12E2	γ1	<1	C-1	+	+
13A2	γ1	<1	C-1	n.t	+
15C2	γ1	<1	C-1	n.t	+
13D6	γ1	<1	N	+	+
13E6	γ1	1	N	+	+
19A3	γ1	1	N	+	+
8G11	γ1	5	C-2	+	+
11A8	γ1	<1	C-3	+	+